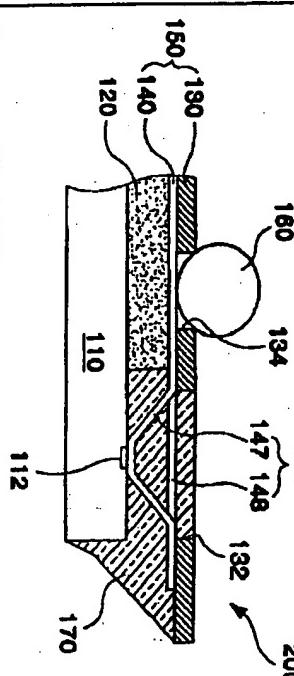


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SAMSUNG ELECTRONICS CO LTD	*KR 2001054744-A	
1999.12.08 1999-055695(+1999KR-055695) (2001.07.02) H01L 23/02		
Fine pitch ball grid array Package including beam lead with containing couple bonding part		
C2002-042181		
Addnl. Data: CHOI G W, SONG Y H		
<u>NOVELTY</u>		
An FBGA (Fine pitch Ball Grid Array) package including beam lead with containing couple bonding part id provided to prevent badness such as electrical disconnection due to a damage of a beam lead.		

<u>DETAILED DESCRIPTION</u>	
An FBGA(Fine pitch Ball Grid Array) package(200) is composed of a semiconductor chip(110), a carbon polymer(120), a tape for FBGA(150), and an external connection terminal(160) such as a solder ball. Bonding pads(112) are formed on the active surface of semiconductor chip(110), and the carbon polymer(120) is doped. The FBGA(150) tape is attached on the carbon polymer(120). The FBGA tape(150) consists of a polyimide film(130) and beam leads(140). An open aperture(134) is made in the polyimide film(130) for loading a solder ball(160), and a window(132) is built in the beam leads(140) to expose a couple bonding part(142). The couple bonding part(142) is connected with the edges of bonding lead(147) which is directly bonded to bonding pads(112), and the other additional bonding lead(148) is connected with the edges of bonding lead(147). The couple bonding part is molded using an encapsulant(170) after bonding the bonding lead(147) on the bonding pads(112).	A(S-J1B, 12-E7C) L(4-C17A, 4-C20A, 4-F2)
 The diagram illustrates a cross-section of the FBGA package. It shows a central rectangular chip labeled 110. Above the chip is a layer of carbon polymer 120. A bonding pad 112 is visible on the chip's surface. A circular solder ball 160 is shown being bonded to a bonding lead 147, which is connected to a bonding pad 112. The bonding lead 147 is labeled with dimensions 142 and 148. Above the bonding lead 147 is a window 132. To the left of the chip, a tape 150 is attached, with a dimension of 180 indicated between the chip and the tape. The overall package is labeled 200. A dimension of 134 is shown for the open aperture in the tape 150. A dimension of 140 is shown for the width of the tape 150. A dimension of 120 is shown for the height of the carbon polymer 120. A dimension of 170 is shown for the encapsulant 170.	